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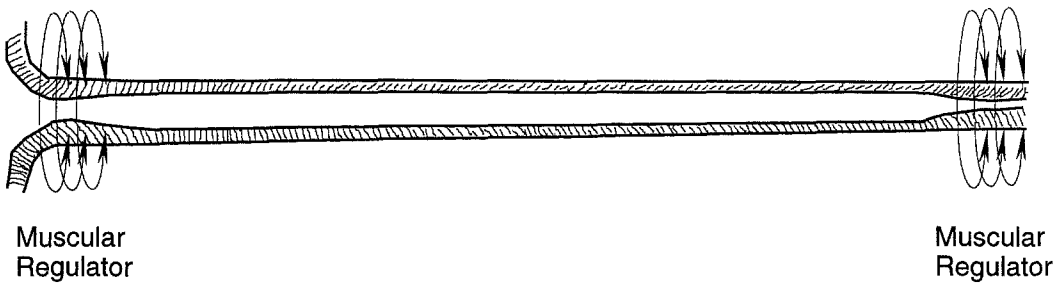

Fig. 1. Schema showing the concept that all arterial grafts for coronary artery bypass grafting are conduit arteries. The muscular regulators are located at both ends to regulate blood flow to organs and to distribute blood flow according to the need of the organ and the hemodynamic status of the whole body. In comparison, the distal end is more important in regulating the flow because this part of the artery is highly reactive and is in diameter the smallest part of the artery.

the distal portion and may be less reactive than the proximal portion as well.[5] This may also be true in other arterial grafts such as the GEA, IEA, and the radial artery. By combining histologic findings,[6] we may draw a schema for conduit arteries as shown in Fig 1. This figure shows that although arterial grafts (conduit arteries) at the full length are reactive, the major muscular components are located at the two ends of the artery (muscular regulator). In particular, the distal end is more efficient as the flow regulator because this part contains relatively more smooth muscle cells and is smaller in diameter. Those characteristics are physiologically important in regulating blood flow distribution. However, when such arteries are used as bypass grafts, those characteristics may be detrimental. In terms of preventing vasospasm of the arterial grafts, trimming off the small and highly reactive distal end of the grafts (ITA, GEA, IEA, or other grafts) may be important and clinically feasible. This concept has been widely accepted for ITA grafting since the original proposal.[1] Dr. Dietl (in his letter) and others[2] have mentioned that this is also feasible for the GEA.

4. The use of vasodilators during preparation of arterial grafts is a recommended method to prevent or relieve vasospasm even though the distal end of the grafts is not used for grafting, because all portions of arterial grafts are reactive arteries and usually have a rather small diameter compared with the saphenous vein.[7] The choice of vasodilators is discussed elsewhere.[7]

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Ostioplasty for isolated coronary artery ostial stenosis

To the Editor:

In a letter to the Editor, Dihmis and Hutter[1] caution the authors van Doorn and Nair[2] about the use of left main coronary ostioplasty for isolated ostial lesions of the coronary arteries. They recount the case of a patient who required urgent reoperation for what was thought, but never proved, to be thrombosis of the left system. When we[3] reported our first 14 cases of this operation, we also cautioned that coronary spasm could occur after this operation, inasmuch as it had been observed in one of our patients.

The 48-year-old woman underwent uneventful left main ostial repair in 1985 for an isolated 75% ostial stenosis that was causing unstable angina. Two hours after the operation the patient had precipitous hypotension, bradycardia, and cardiac arrest. Open cardiac massage was initiated. With infusion of massive doses of nitroglycerin, the heart, which initially was dilated and hypokinetic, gradually returned to normal action. A presumptive diagnosis of coronary spasm was made. The patient was taken to the catheterization laboratory, and both the repair and the left anterior descending coronary system were found to be widely patent. The patient remains well 10 years after her operation.

In a telephone follow-up of 13 of 14 patients from this reported series, three have died 7, 3, and 7 years after the operation. Two died of carcinoma, and in the third the cause was unknown. Three have recurrent angina 5, 8, and 9 years after the operation. One has had angioplasty for new distal disease and is well. The other two are receiving medication and have not yet had catheterization. A further eight patients have undergone left main ostioplasty since 1988. One patient with diabetes died of a cardiac arrest 1 year after the operation, the circumstances being unknown. The other patients remain well and do not require medication.

Although this operation does not guarantee freedom from recurrent angina or progression of native disease, we still consider it a hemodynamically appealing operation for isolated ostial disease in the otherwise normal distal coronary system. It is particularly useful in the small subject with this condition.

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